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**BIBLIOGRAPHY OF THE FRESHWATER MUSSELS (UNIONOIDA)  
OF NORTH AMERICA ON THE WEB**

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## **Introduction**

Very few bibliographies exist for most groups of organisms, particularly freshwater plants and animals (Berry 1965). Beginning in the early seventies the North American Benthological Society (NABS) has addressed this problem in part by providing a yearly bibliography on a wide variety of taxonomic groups of benthic organisms. These annual bibliographies have been very useful to the scientific community, but they do not contain references to papers published before 1970 and they cannot be searched on-line. Although the NABS bibliographies are a step in the right direction, comprehensive bibliographies on major groups of plants and animals are still sorely needed.

A few bibliographies on freshwater mollusks have been published (Basch 1965; Binney 1863, 1864; Clarke 1985; Havlik & Marking 1987; La Rocque 1962; Taylor 1970; Watters 1994), but most deal with a particular subject area (i.e. contaminants or reproduction) or do not include current literature (i.e. Binney 1863, 1864).

One of the objectives of our project was to include all of the papers from the above-mentioned published bibliographies and to add thousands of papers not included in those works. Citations for hard to obtain literature or government documents that are unavailable or unknown to most researchers have also been added to our on-line bibliography.

The Bibliography of the Freshwater Mussels (Unionoida) of North America is up and running and is hosted by the Illinois Natural History Survey / Freshwater Mollusk Conservation Society Web Site.

## **Justification**

The project was prompted by two critical tasks identified in the "National Strategy for the Conservation of Native Freshwater Mussels" (The National Native Mussel Conservation Committee. 1998. National strategy for the conservation of native freshwater mussels. *Journal of Shellfish Research* 17(5):1419-1428). Those tasks were to:

1. Develop and implement effective mechanisms to disseminate information on the progress of the mussel conservation effort to cooperators and interested parties (Strategy 1.1.2).
2. Prepare a "computerized annotated bibliography, so the mussel conservation community and other interested individuals would have access to current knowledge to help expedite the conservation effort" (Strategy 1.1.4).

## **Objectives**

The objectives of the project were:

1. To prepare a comprehensive bibliography on the freshwater mussels of North America.
2. To make the bibliography available as a searchable database on the Web.
3. To provide a server for the Freshwater Mollusk Conservation Society (FMCS) web site.

## Results

We compiled and prepared a bibliography on the freshwater mussels of North America north of Mexico that includes all references to the published literature and as much of the unpublished "gray literature" as we could find. Although the focus of the bibliography was freshwater mussels in North America, we also compiled literature on other freshwater mollusks (snails, fingernail clams, and exotic species including zebra mussels) worldwide and those references have been included. The non-North American literature is not as comprehensively covered, but it adds a tremendous amount of information that is now available on-line. To date the bibliography contains 13,870 references and about 50 new references are added each month. We feel that our web version is a welcome resource to those working on freshwater mollusks and the scientific community in general. Many comments have been received from scientists around the world on the usefulness of the bibliography.

All three of the above mentioned objectives have been completed. It has already proven to be a useful tool in conservation planning, research, and other avenues of investigation on freshwater mollusks. The site has over 750 hits each month and the database is updated approximately every 2 months or when needed. Under this agreement, we will maintain, proof, and update the database for the next three years, at which time additional support may be sought to keep it up and running.

The bibliography can be found at: <http://ellipse.inhs.uiuc.edu:591/mollusk/> In addition to hosting the bibliography, the server purchased on this project also hosts the FMCS web site: <http://ellipse.inhs.uiuc.edu/FMCS/index.html> This site is used to distribute information of interest to biologists that conduct research on freshwater mollusks. The bibliography covers references to literature in three basic areas:

1. The primary literature: books, journals, monographs, etc.
2. Theses and dissertations: much of the information contained in these works was unknown to many workers and not accessible.
3. "Gray" literature: This includes government documents, technical reports, proceedings of symposia, newsletters, shell club bulletins, etc. – documents that are typically very difficult to find.

Each citation is annotated and includes information on geographic area covered, taxa included (i.e. mussels, zebra mussels, snails), and 25 other specific topic areas including life history, endangered species, pollution, anatomy, physiology, genetics, age and growth, reproduction, and more. The database was developed using FilemakerPro software that runs on both Macintosh and IBM PC's (and compatibles) using Windows and can be accessed on the World Wide Web by any commercial browser.

Funds provided by the National Fish & Wildlife Foundation were used as stated in the proposal. Most of the funds were used to procure computers that were used in data entry and as servers for the data and web site. Laptop computers were also purchased for use in data entry at other institutions. Software to run the database was also purchased. Hourly help to do data entry was also funded. Funds were also used to travel to libraries and museums to add additional citations to the database, and trips were made to meetings to spread the word about the database to the scientific community.

### Literature Cited

- Basch, P.F. 1965. An unexploited resource: Doctoral dissertations dealing with recent Mollusca. *Sterkiana* 20:39-44.
- Berry, S.S. 1965. Good molluscan bibliographies - few and far between. (Abstract). American Malacological Union, Inc. Annual Reports. 32(1965):53-55.
- Binney, W.G. 1863. Bibliography of North American conchology previous to the year 1860. Part I. American Authors. *Smithsonian Miscellaneous Collections* 5:1-650.
- Binney, W.G. 1864. Bibliography of North American conchology previous to the year 1860. Part II. Foreign Authors. *Smithsonian Miscellaneous Collections* 9:1-306.
- Clarke, A.H. 1985. An annotated bibliography of the freshwater mussels in the United States. Internal Working Document. EL-85-1. 214 pp + Appendices.
- Havlik, M.E., and L.L. Marking. 1987. Effects of contaminants on naiad mollusks (Unionidae): a review. U.S. Fish & Wildlife Service Resource Publication 164 20 pp.
- La Rocque, A. 1962. Key references to the Mollusca of Arkansas. *Sterkiana* 6:39.
- Taylor, D.W. 1970. West American freshwater Mollusca 1: Bibliography of Pleistocene and Recent species. *San Diego Society of Natural History Memoirs* 4:1-73.
- Watters, G.T. 1994. An annotated bibliography of the reproduction and propagation of the Unionoidea (Primarily of North America). *Ohio Biological Survey Miscellaneous Contributions* No. 1 158 pp.